

News Release

UMC and UND collaborate on grant from National Science Foundation

By David DeMuth on Friday, September 9, 2005

Dr. William Schwalm from the University of North Dakota (UND) has received a grant from the National Science Foundation that will allow a collaboration with Dr. David DeMuth from the University of Minnesota, Crookston (UMC) for the project entitled "Collaborative Research: Adaptation of the University of Minnesota Problem Solving Labs for the Introductory Physics Sequence." This will involve curriculum development at both UMC and UND through cooperative effort.

Ultimately, this funding will allow DeMuth to implement the problem solving learning strategies pioneered by Drs. Kenneth and Patricia Heller from the University of Minnesota, Twin Cities into the UMC physics curriculum and to develop further the video capture techniques for the laboratory. DeMuth served as a teaching assistant for the Hellers in 1989 while a graduate student at University of Minnesota.

Dr. William Schwalm serves as the grant's principal investigator and contact, while Dr. Mizuho Schwalm, who has been teaching at UMC since 2004, was instrumental in UMC's participation in planning the project.. The UND Physics Department and UMC will cooperate to set up the Problem Solving Laboratory system (PSL) developed by the Physics Education Research and Development Group (PERDG) at University of Minnesota, Twin Cities for introductory physics courses at the two campuses.

UMC has a long-term goal of integrating video-based PSLs into study modules suitable for K-12 teacher training. Video-based labs are also ideal for distance education courses such as physics where a weekly lab is traditional. M. Schwalm and DeMuth will adapt the PERDG curriculum and develop video capture and analysis software.

The UND counterpart project will utilize technical expertise gained by the Minnesota group to set up a PSL system in introductory physics courses on their campus. Working with University of Minnesota and UMC will be particularly beneficial for gaining a knowledge base for developing K-12 physics teacher training courses and workshops and for development of effective distance learning courses.

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